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Before the
Federal Communications Commission
Washington, DC 20554

In the Matter of	)	
	)	
Applications for Consent to the	)	
Transfer of Control of Licenses	)	
	)	
MediaOne Group, Inc.,	)	CS Docket No. 99-251
Transferor,	)	
	)	
To	)	
	)	
AT&T Corp.,	)	
Transferee.	)	

EX PARTE REPLY DECLARATION OF

JERRY A. HAUSMAN AND J. GREGORY SIDAK

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INTRODUCTION

1.   We have been asked by GTE Corporation to evaluate the arguments contained in the September 17, 1999 reply declaration of Professors Janusz A. Ordover and Robert D. Willig on behalf of AT&T in support of its proposed acquisition of MediaOne.[1] The analysis of Professors Ordover and Willig is flawed in at least three major respects. First, Professors Ordover and Willig continue to improperly combine broadband Internet access and narrowband Internet access into one large Internet market. Second, Professors Ordover and Willig erroneously dismiss the anticompetitive effects of the AT&T-MediaOne merger. In particular, the merger will allow AT&T to control the development of broadband content, software, and customer equipment, hindering the efforts of alternative broadband technologies to compete and subjecting consumers to higher e-commerce prices. Third, Professors Ordover and Willig overstate the procompetitive benefits of the AT&T-MediaOne merger.

2.   AT&T's acquisition of MediaOne represents a traditional cable strategy of controlling alternative sources of delivery for video programming. Before AT&T's recent cable acquisition initiative, the most recent implementation of that anticompetitive strategy was the attempt by a coalition of cable firms to control *satellite* delivery of video programming, the first alternative medium for multichannel video programming.[2] In the *Primestar* case, the Department of Justice sued to block that combination and characterized direct broadcast satellite (DBS) as "the first real threat to the cable monopoly."[3] The acquisition of MediaOne will allow AT&T to control *broadband Internet* delivery of video programming, the second alternative medium for

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1.   Declaration of Janusz A. Ordover and Robert D. Willig, on behalf of AT&T Corp., Application for Consent to the Transfer of Licenses of MediaOne Group, Inc., Transferor to AT&T Corp., Transferee, CS Docket No. 99-251 (filed Sept. 17, 1999) [hereinafter *MediaOne Ordover-Willig Declaration*].

2.   *See* United States v. Primestar, Inc., et. al, Complaint, Civil No. 1:98CV01193 (JLG), May 12, 1998.

multichannel video programming. Even AT&T's own economic experts admit that "Internet video streaming clearly competes, at a minimum, with video programming offered by cable systems, satellite companies, and television broadcasters."[4] By increasing AT&T's market power over broadband programmers and advertisers, the merger will substantially harm consumers by limiting their choices of broadband content and raising the price of e-commerce.

QUALIFICATIONS

3. Our professional qualifications for submitting this expert affidavit are as follows.

4. My name is Jerry A. Hausman. I am the MacDonald Professor of Economics at the Massachusetts Institute of Technology (MIT). I received an A.B. degree from Brown University and B.Phil. and D.Phil. (Ph.D.) degrees in economics from Oxford University, where I was a Marshall Scholar.

5. My academic and research specialties are econometrics, the use of statistical models and techniques on economic data, and microeconomics, the study of consumer behavior and the behavior of firms. I have published over 120 scholarly papers, including about twenty papers in the areas of telecommunications and regulation. I teach a course entitled "Competition in Telecommunications" to graduate students in economics and business at MIT each year. I am also the director of MIT's Telecommunications Economics and Business Research Program. I was a

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3. U.S. Department of Justice, Press Release, *Justice Department Sues to Block Primestar's Acquisition of News Corp./MCI's Direct Broadcast Satellite Assets*, May 22, 1998, at 1 (quoting Joel I. Klein). Can be downloaded from http://www.usdoj.gov/atr/public/press_releases/1998/1758.htm.

4. *MediaOne Ordover-Willig Declaration, supra* note 1, at ¶ 117. For additional assessments of the coming competition between cable and streaming video over broadband, see Dissenting Statement of Commissioner Harold Furchtgott-Roth, Annual Assessment of the Status of Competition in Markets for the Delivery of Video Programming, CS Dkt. No. 98-102, (explaining why competition to cable should include "broadcast televisions stations, DBS, . . . and, at some point in the not too distant future, internet streaming video"); BRUCE M. OWEN, THE INTERNET CHALLENGE TO TELEVISION 8 (Harvard University Press 1999) (describing the Internet as the "first potential substitute for broadcast television as an in-home entertainment delivery medium since the rental video-

member of the editorial board of the *RAND Journal of Economics* (formerly the *Bell Journal of Economics*) for thirteen years. The *RAND Journal of Economics* is the leading economics journal of applied microeconomics and regulation. In December 1985, I received the John Bates Clark Award of the American Economic Association, awarded every other year for the most "significant contributions to economics" by an economist under forty years of age. I have received numerous other academic and economic society awards, including the Frisch Medal from the Econometrics Society in 1980.

6.   I have done significant amounts of research in the telecommunications industry. My first experience in this area was in 1969, when I studied the Alaskan telephone system for the Army Corps of Engineers. Since that time, I have studied the demand for local measured service, the demand for intrastate toll service, consumer demands for new types of telecommunications technologies, marginal costs of local service, costs and benefits of different types of local services, including the effect of higher access fees on consumer welfare, and consumer demand for new types of pricing options for long-distance service. I have also studied the effect of new entry on competition in paging markets, telecommunications equipment markets, and interexchange markets. Other areas of telecommunications in which I have recently done research include the cellular telephone industry and the information services industry. I have also edited two books on telecommunications, *Future Competition in Telecommunications* (Harvard Business School Press 1989) and *Globalization, Technology and Competition in Telecommunications* (Harvard Business School Press 1993). My most recent papers in telecommunications are "Taxation By Telecommunications Regulation," *Tax Policy and the Economy* (1998); "Economic Welfare and Telecommunications Welfare: The E-Rate Policy for Universal Service Subsidies," *Yale Journal*

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cassette").

on Regulation (1999), with Howard A. Shelanski; "Regulation by TSLRIC: Economic Effects on Investment and Innovation," *MultiMedia und Recht* (1999); "A Consumer-Welfare Approach to Mandatory Unbundling of Telecommunications Networks," *Yale Law Journal* (1999), with J. Gregory Sidak.

7. I have submitted affidavits and declarations in numerous federal and state proceedings regarding telecommunications regulation. For example, I have testified on numerous occasions before the California Public Utilities Commission (CPUC) about its Alternative Regulatory Frameworks for local exchange carriers. In 1998, I testified before the CPUC on economically correct methods to set prices for unbundled network elements. In August 1999, I submitted an affidavit on behalf of SBC with respect to the current merger.

8. My name is J. Gregory Sidak. I am the F. K. Weyerhaeuser Fellow in Law and Economics at the American Enterprise Institute for Public Policy Research (AEI) in Washington, D.C., where I direct AEI's Studies in Telecommunications Deregulation. I am also a senior lecturer at the Yale School of Management, where I teach a course on telecommunications regulation and strategy with Professor Paul W. MacAvoy. I am the founder of Criterion Economics, LLC, an economic consulting firm in Washington, D.C. that specializes in antitrust and regulatory issues concerning telecommunications, the Internet, and other network industries.

9. I have worked in the federal government on three occasions. From 1987 to 1989, I was deputy general counsel of the FCC. From 1986 to 1987, I was senior counsel and economist to the Council of Economic Advisers in the Executive Office of the President. From 1981 to 1982, I served as a law clerk to Chief Judge Richard A. Posner during his first term on the U.S. Court of Appeals for the Seventh Circuit. In addition to having worked in government, I have previously worked, as an attorney in private practice, on numerous antitrust cases and federal administrative,

legislative, and appellate matters concerning competition policy in telecommunications and other network industries.

10.   My academic research concerns regulation and strategy in telecommunications and other network industries, antitrust policy, and constitutional law issues concerning economic regulation. I am the author or co-author of five books concerning pricing, costing, competition, and investment in regulated network industries,[5] and of more than thirty scholarly articles in law reviews and economics journals. I am the editor of three other books on telecommunication competition and deregulation.[6] I have testified before the U.S. Senate and House of Representatives. My writings have been cited by the Supreme Court, by the lower federal and state supreme courts, and by state and federal regulatory commissions.

11.   I have been a consultant on regulatory and antitrust matters to governmental organizations (including the Antitrust Division of the U.S. Department of Justice and the Canadian Competition Bureau) and to more than thirty companies in the telecommunications, electric power, natural gas, mail and parcel delivery, broadcasting, newspaper publishing, and computer software industries in North America, Europe, Asia, and Australia. In August 1999, I submitted an affidavit with Daniel L. Rubinfeld on behalf of GTE Corporation with respect to the current merger.

12.   From Stanford University, I earned A.B. (1977) and A.M. (1981) degrees in economics and a J.D. (1981) in law. I was a member of the *Stanford Law Review*.

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5.   J. GREGORY SIDAK & DANIEL F. SPULBER, DEREGULATORY TAKINGS AND THE REGULATORY CONTRACT: THE COMPETITIVE TRANSFORMATION OF NETWORK INDUSTRIES IN THE UNITED STATES (Cambridge University Press 1997); J. GREGORY SIDAK & WILLIAM J. BAUMOL, TOWARD COMPETITION IN LOCAL TELEPHONY (MIT Press & AEI Press 1994); J. GREGORY SIDAK & WILLIAM J. BAUMOL, TRANSMISSION PRICING AND STRANDED COSTS IN THE ELECTRIC POWER INDUSTRY (AEI Press 1995); J. GREGORY SIDAK & DANIEL F. SPULBER, PROTECTING COMPETITION FROM THE POSTAL MONOPOLY (AEI Press 1996); J. GREGORY SIDAK, FOREIGN INVESTMENT IN AMERICAN TELECOMMUNICATIONS (University of Chicago Press 1997).

6.   IS THE TELECOMMUNICATIONS ACT OF 1996 BROKEN? IF SO, HOW CAN WE FIX IT? (AEI Press 1999); COMPETITION IN INTERNATIONAL TELECOMMUNICATIONS (AEI Press forthcoming 2000); TELECOMMUNICATIONS DEREGULATION IN GERMANY AND THE UNITED STATES (AEI Press forthcoming 2000).

13.   We file this affidavit in our individual capacities and not on behalf of the Massachusetts Institute of Technology, the American Enterprise Institute, or the Yale School of Management.

SUMMARY OF CONCLUSIONS

14.   In Part I of this affidavit, we demonstrate that Professors Ordover and Willig continue to combine improperly the narrowband access and broadband access markets. By focusing on the question of whether narrowband access customers would switch to broadband access alternatives, Professors Ordover and Willig comment exclusively on the existence of a narrowband access market. That analysis, however, is uninformative. Instead, the relevant question is whether a sufficient number of broadband customers would switch to narrowband Internet service in the face of a non-transitory price increase. AT&T's economic experts highlight the narrowing price differential between narrowband and broadband Internet connections, which is also irrelevant for the purpose of establishing a separate broadband Internet access market. We show that AT&T's own Internet service provider (ISP) decision model supports the conclusion that a separate market exists for broadband Internet access. Because the typical broadband user spends so much time on the Internet, a five-percent price increase on broadband access would not overcome the value of leisure of time lost for the vast majority of broadband customers who were considering a narrowband alternative; hence, a hypothetical monopoly provider of broadband Internet access could profitably sustain a five-percent price increase for a non-transitory period. Finally, estimation of the cross-price elasticities between broadband access and narrowband access reveals that broadband access

prices are not constrained by narrowband access prices, a finding that confirms that broadband access is not in the same market as narrowband access.

15.   In Part II, we demonstrate that Professors Ordover and Willig overlook the anticompetitive effects of the AT&T-MediaOne merger. In particular, Professors Ordover and Willig disregard network effects in broadband Internet services that give an entrenched first-mover durable monopoly power. The improper combination of two separate Internet access markets allows Professors Ordover and Willig to dismiss any concerns that AT&T and MediaOne will use its combined share of broadband Internet customers to exercise market power in the supply of broadband content and broadband advertising. Contrary to their claims, we demonstrate that AT&T will have a strong incentive and opportunity to discriminate against unaffiliated broadband content providers. AT&T's incentive to discriminate derives from the fact that AT&T's gains from higher margins on broadband content (supplied to customers whom AT&T will retain) will likely outweigh its losses, if any, in Internet access charges (from customers who defect to another supplier of Internet access). Because some of AT&T's broadband customers who remain after AT&T limits choices *would have preferred* similar content from non-affilated providers, there will be substantial losses in consumer welfare.

16.   Next we show that, contrary to the claims of Professors Ordover and Willig, AT&T will have a strong incentive and opportunity to raise advertising prices on its broadband home page. We demonstrate that the consumer welfare loss resulting from higher e-commerce prices would be substantial. Professors Ordover and Willig also fail to respond to the anticompetitive incentives that AT&T has because unaffiliated services supplied over broadband Internet will cannibalize AT&T's cable and long-distance margins. In particular, we explain how the competitive provision of broadband streaming video will erode AT&T's cable margins and

how the competitive provision of Internet protocol telephony will erode AT&T's long-distance margins.

17.   In Part III, we explain how Professors Ordover and Willig exaggerate the procompetitive benefits of the AT&T-MediaOne merger. Carefully scrutinized, such asserted benefits are in fact nonexistent, or, at most, insubstantial. That is so for five reasons. First, AT&T's decision to acquire MediaOne does not exclusively support a procompetitive hypothesis. The same premium in the purchase price of MediaOne could reflect AT&T's expectation of reaping monopoly rents. Second, Professors Ordover and Willig confuse the procompetitive benefits of a cable strategy with the asserted benefits of the merger itself, asserting that the AT&T-MediaOne merger will be responsible for injecting competition in local telephone services. Third, AT&T will not accelerate the deployment of local telephone service over MediaOne's network as a result of the merger. Fourth, our empirical analysis of digital subscriber line (DSL) deployment decisions across the United States reveals that, contrary to Professors Ordover and Willig's assertion, AT&T's announced purchase of MediaOne did not spur DSL deployment. Fifth, any savings to consumers from MediaOne's ability to avoid the access charges of incumbent local exchange carriers (ILECs) can be achieved through interconnection agreements between AT&T and MediaOne. By Professors Ordover and Willig's own decision rule for choosing contracts over mergers, this synergy between the two firms—the only merger-specific synergy among their many claimed benefits of the merger—can be achieved through a less restrictive arrangement. Professors Ordover and Willig fail to show that the remaining claimed synergies, which largely concern the sharing of respective experiences, are both merger-specific and substantial.

I. PROFESSORS ORDOVER AND WILLIG IMPROPERLY COMBINE THE NARROWBAND AND BROADBAND INTERNET ACCESS MARKETS

18. In its recent report on the state of broadband competition, the FCC suggests that broadband Internet services represent a distinct antitrust market.[7] In this part of the declaration, we show that the FCC's assessment comports with the conclusion that follows from application of the Department of Justice and Federal Trade Commission's 1992 *Horizontal Merger Guidelines*, which provide a specific algorithm for defining the relevant product market affected by a proposed merger or acquisition.[8]

19. Following the *Guidelines*, one begins with a narrow definition of the relevant product market and asks the following question: Could a hypothetical monopoly supplier of the product in question profitably sustain a five-percent price increase for a substantial time period, which is usually assumed to be two years? If the answer is no—that is, the supplier would need control over related product markets to make the price increase profitable—then the product market must be expanded to cover those neighboring products, and the exercise is repeated. If the answer is yes—that is, the increased profit on inframarginal customers outweighs the lost variable profits on marginal customers who switch suppliers when faced with a price increase— then the narrowly defined product represents its own relevant antitrust market. Assuming that we begin with broadband Internet access services, this "critical share" analysis can be performed to determine the number of customers who could switch to narrowband access alternatives before the price increase of the hypothetical monopolist would be rendered unprofitable.[9]

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7. *See* BROADBAND TODAY: A STAFF REPORT TO WILLIAM E. KENNARD, CHAIRMAN FEDERAL COMMUNICATIONS COMMISSION 47 (released Oct. 13, 1999) (describing a "nascent residential broadband market") [hereinafter CABLE BUREAU BROADBAND REPORT].

8. Department of Justice and Federal Trade Commission Horizontal Merger Guidelines 1992, at § 1.1.

9. For a more extensive discussion of critical share, see Jerry A. Hausman, Gregory K. Leonard & Christopher A. Vellturo, *Market Definition Under Price Discrimination*, 64 ANTITRUST L.J. 367 (1996).

A. Professors Ordover and Willig Incorrectly Focus on the Existence of a Narrowband Access Market

20. Professors Ordover and Willig correctly observe that mere differences in demographic characteristics of customers interested in broadband and narrowband Internet access do not constitute a proof of two separate antitrust markets.[10] To determine whether broadband Internet services represent a separate antitrust product market, one must focus on the proportion of the *marginal broadband* customers—that is, those broadband customers who would depart in the face of a small price increase—relative to the size of *all broadband* customers.[11] That ratio, known as the "critical share" of broadband customers, represents the fraction of broadband customers who could depart yet still leave a hypothetical monopoly supplier of broadband services as well off after a price increase. Similarly, although completely irrelevant for the purpose of this matter, to determine whether narrowband represents a separate market, one must focus on the proportion of the *marginal narrowband* customers—that is, those narrowband customers who would depart in the face of a small price increase—relative to the size of *all narrowband* customers. It is not incumbent on opponents of the AT&T-MediaOne merger to demonstrate the existence of two separate Internet markets. Rather, the demonstration of the existence of a distinct broadband Internet services market is *sufficient* to examine anticompetitive effects of any exercise of market power.

21. It is often not the case that the existence of one antitrust market implies the existence of another. Stated another way, the relevant cross-price elasticities are not typically

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10. *MediaOne Ordover-Willig Declaration, supra* note 1, at ¶ 89.

11. All broadband customers are defined as the sum of the marginal and "inframarginal" customers, where inframarginal is defined as those customers who would not depart in the face of a small price increase.

identical.[12] To blur that distinction, Professors Ordover and Willig speak of the "great deal of demand cross-price elasticity and opportunities for substitution between the two modes of Internet access."[13] By focusing on the decision to "switch from their current narrowband providers," Professors Ordover and Willig only call into question the existence of a separate *narrowband* market.[14] Unfortunately, the determination of whether a hypothetical monopoly provider of narrowband transport can exercise market power in the market for narrowband transport does not imply anything about the existence of a broadband transport market. Hence, the attempted economic analysis of Professors Ordover and Willig crumbles. In essence, Professors Ordover and Willig are playing on the one-way substitutability from narrowband to broadband Internet services. While all narrowband applications are supported by broadband Internet connections, the same is not true in reverse—growing numbers of broadband applications cannot be supported over narrowband Internet connections.

B. The Existence of a Distinct Broadband Internet Access Market Is Supported by Both Theoretical and Empirical Analysis

22. Professor Ordover and Willig emphasize that, after incorporating the price of a second telephone line, the prices of broadband access and narrowband access are similar; hence, they reason, narrowband and broadband Internet connections must be in the same product market.[15] The assertion that the broadband and narrowband Internet access prices are similar is wrong for at least three reasons. First, although the price of connection (when incorporating the price of a second line) to the Internet may be similar, the *quality-adjusted* price is not. In

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12. The Slutsky equation of economic analysis states that the compensated cross-price derivatives are equal. *See, e.g.,* HAL R. VARIAN, MICROECONOMIC ANALYSIS 119 (W.W. Norton Co. 3d ed. 1992). However, since the cross-price elasticities depend on quantities purchased, the cross-price elasticities typically differ, often by large amounts if one product has significantly higher sales than the other, as would occur in the current situation.

13. *MediaOne Ordover-Willig Declaration, supra* note 1, at ¶¶ 82, 85.

14. *Id.* at ¶¶ 84, 129.

15. *Id.* at ¶ 87.

particular, a second line is not always "on," is subject to congestion,[16] and cannot simultaneously

support several broadband applications such as streaming video and video conferencing. Second,

many heavy Internet users who own a wireless telephone can avoid the cost of a second line.[17] If

the choice to subscribe to wireless was made *before* the Internet access decision, as would seem

likely to be the case for many Internet users, we believe that the monthly price of the wireless

connection should not be included in the price of narrowband access. Third, if the price of a

second telephone line should be included in the price comparison, then certainly the installation

cost of a broadband connection (typically $150 for a cable modem to be installed) should be

incorporated as well. Under any reasonable comparison, the prices of broadband and narrowband

Internet access are *different and hence support*, but in no way confirm, the notion of distinct

antitrust markets.[18]

23.   Even if the assertion of equivalence between broadband and narrowband Internet

access prices were true, the proof that a separate broadband market exists would not be affected.

First, for the same reason that evidence of diverging prices is not definitive, evidence of similar

prices between two products—say, a can of Coke and an arcade game—does not imply that the

two products are in the same product market. Second, the data demonstrate that very different

prices of second telephone lines exist across different regulatory jurisdictions, but that the price

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16. *See generally* J. Gregory Sidak & Daniel F. Spulber, *Cyberjam: The Law and Economics of Internet Congestion of the Telephone Network*, 21 HARV. J. L. & PUB. POL'Y 337 (1998).

17. In particular, college students and singles with roommates reportedly use home telephone lines for their computer modems only, and make voice calls on digital pocket telephones. *See, e.g.*, Mike Mills, *Dollars and Dazzle in '99; Telecommunications Developments May Ease Pain of New Rate Increases*, WASH. POST, Jan. 4, 1999, at F18.

18. In comparing the costs of narrowband and broadband Internet connections, the FCC incorrectly incorporates the costs of a computer modem, which is included in almost every computer purchase order. Hence, on the margin, the typical customer does not incur that expense when choosing a narrowband Internet connection. *See* Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, Report, CC Dkt. No. 98-146, 14 F.C.C. Rcd. 2398, at ¶ 87 (1999).

of broadband Internet access remains relatively constant.[19] These data demonstrate that narrowband Internet access does not constrain the price of broadband Internet access. As we demonstrate in the following two subsections, a narrowing price differential between broadband and narrowband Internet access actually *facilitates* a five-percent price increase by a hypothetical monopoly provider of broadband Internet access, as the narrowband alternative becomes less attractive. Stated another way, a narrowing price differential between broadband and narrowband access, as Professors Ordover and Willig claim, supports the notion of a distinct broadband Internet access market.

1. AT&T's Own ISP Decision Model Supports the Conclusion that a Separate Broadband Market Exists

24.   We begin with the basic premise that, when choosing the form of Internet access, a consumer must weigh the greater out-of-pocket costs associated with broadband Internet access against the wasted leisure time (due to slower speeds) and diminished quality of experience (due to fewer applications) associated with a narrowband connection. Because Professors Ordover and Willig believe the quality of the experience to be nearly identical across both mediums, AT&T's decision model implies that consumers will choose broadband over narrowband if and only if the increase in the value of leisure time saved outweighs the increase in monthly out-of-pocket expenditures. In particular, Professors Ordover and Willig argue that any difference between broadband and narrowband applications will be negligible: "In any event, the overwhelming majority of Internet content is accessible by both narrowband and broadband last-mile transport; the only difference is the speed or quality at which the content downloads."[20] That assertion

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19. The price data were obtained through telephone calls to the companies that offered the specified services in each of the respective areas. The calls took place from August 10, 1999 to August 15, 1999.

20. *MediaOne Ordover-Willig Declaration, supra* note 1, at ¶ 92. Although that assertion may be true for the inframarginal narrowband customer, it completely ignores the relevant market-definition question: whether the

raises the following question: Could a hypothetical monopoly supplier of broadband Internet access in a geographic market sustain a five-percent price increase *conditional on the assumption that consumers only consider differences in speed when choosing their ISP?*

25.   If one can show that a five-percent price increase is profitable under the assumption that the quality of the broadband and narrowband experiences is the same, then the price increase would be *even more profitable* when that counterfactual assumption is relaxed. To conduct that analysis, one must first calculate the out-of-pocket costs associated with the choice of broadband and narrowband Internet connections. To do so, we use the monthly Internet service fees of Erols (plus the costs of a second telephone line and installation fee amortized over one year) and @Home (plus the cost of a cable modem and installation fee amortized over one year) to compute an out-of-pocket price differential associated with choosing broadband transport over narrowband transport. That differential is equal to $8.38 per month.[21]

26.   The value of the leisure time saved is equal to the product of the hours of leisure time saved due to faster download speeds and the value of one's leisure time per hour. A significant difficulty in estimating the amount of leisure time saved is that, for at least for *some* fraction of the time spent downloading content with a narrowband connection, the consumer can engage in other leisure activities, such as reading or watching television. We assume that the best proxy for the value of one's leisure time is one's wage rate. According to a survey by the

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majority of *broadband* content—not all Internet content—is accessible by both narrowband and broadband last-mile transport.

21. The monthly service fee of Erols and @Home are $11 and $40, respectively. The cost of a second telephone line in the Maryland suburbs of Washington, D.C. is $23.03 per month. The installation costs of a second telephone line are $95 (for re-wiring the telephone jack) plus a $26 connection charge. The installation cost for @Home is $150. Information from Bell Atlantic representative and @Home web site <http://www.comcastonline.com>. When the installation costs are amortized over three years, the monthly price differential falls to $6.78.

Strategis Group, the average hourly wage rate of subscribers interested in broadband connections was, as of December 1998, $29.[22]

27.   AT&T's ISP decision rule can be simplified to the following expression: A consumer will choose broadband over narrowband Internet access if and only if

$$t\,w > p_b - p_n,$$

where t is amount of leisure time saved, w is the wage rate, p_b is the monthly price of broadband and p_n is the monthly price of narrowband Internet access. Dividing both sides by the wage rate gives

$$t > [p_b - p_n] \,/\, w,$$

Given the out-of-pocket price differential of $8.38 per month and the value of leisure time equal to $29 per hour, a consumer would only choose broadband transport over narrowband transport (under AT&T's decision model) if the amount of leisure time that she saved exceeds 17 minutes *per month* (that is, [$52.50 per month - $44.11 per month] / $29 per hour = 0.29 hours = 17.3 minutes).

28.   Next we compute the consumer's decision rule under the assumption that prices of broadband connections were to rise by five percent. Under the new parameters, a consumer chooses broadband Internet access over narrowband Internet access so long as the value of that consumer's leisure time saved exceeds 23 minutes *per month* (that is, [$52.50 per month x 1.05 - $44.11 per month] / $29 per hour = 0.38 hours = 22.8 minutes).

29.   Finally, one must estimate the share of broadband customers that would switch to narrowband Internet access given the five-percent price increase. Assuming that the marginal cost of providing broadband Internet access is zero, the critical share of customers who must

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22. STRATEGIS GROUP, HIGH-SPEED INTERNET 1998-1999, at 31 (Dec. 1998) [hereinafter STRATEGIS GROUP

switch to render a five-percent price increase unprofitable is 4.8 percent.[23] Based on the exercise above, the marginal customers download content in such a way that their amount of leisure time saved as a result of faster speeds is between 17 and 23 minutes per month.

30.   Relying on the Strategis Group's distribution of Internet users, we believe that such customers represent a significantly smaller share of the broadband Internet access market than 4.8 percent.[24] Indeed, the average amount of time spent on the Internet for those customers interested in broadband connections was *2,442 minutes* per month. Stated another way, we believe that the amount of leisure time that would be saved by customers who spend 2,442 minutes per month on the Internet must substantially exceed 23 minutes per month. Consequently, a five-percent price increase would be profitable for a hypothetical monopolist to impose on these consumers and thus, according the *Merger Guidelines'* market-definition test, broadband Internet access represents a separate antitrust market. Because the five-percent price increase would be profitable under the extreme case in which the quality of the experiences for broadband and narrowband usage was identical and switching costs were zero,[25] the same five-percent price increase under more realistic assumptions would be even more profitable. Hence, according to the test prescribed by the *Merger Guidelines*, broadband Internet access represents a separate antitrust product market from narrowband Internet access.

SURVEY].

23. The five-percent price increase will be profitable only if the gains from the inframarginal customers (that is, those who remain with broadband transport after the price increase) outweighs the lost variable profit margins on the customers who switch to narrowband connections. Assuming zero marginal cost, the gains on inframarginal customers is equal to .05 x price x number of inframarginal customers, while the lost variable profit on marginal customers is 1 x price x number of marginal customers. The decision rule simplifies to $q / (1-q) = .05$, where q is the inframarginal customers. Solving for q gives $q = 4.8$. It is important to note that this estimate is conservative because if there were positive marginal costs, the lost variable profits from those customers who switch to narrowband transport would be lower, which would raise the critical share.

24. STRATEGIS GROUP SURVEY, *supra* note 22, at 31.

25. Some obvious switching costs that would constrain the ability of a broadband customer to switch to narrowband are (1) long-term contracts, (2) the costs of changing one's email address, and (3) the cost of establishing a second telephone line.

2. Even After Incorporating the Suggestions of Professors Ordover and Willig, Estimation of the Cross-Price Elasticities between Broadband Access and Narrowband Access Reveals that Broadband Prices Are Not Constrained by Narrowband Prices

31. The question of market definition can also be tested empirically. If it can be shown that narrowband Internet access prices (including the access charge plus the price of a second telephone line) *do not* constrain broadband Internet access prices, then a hypothetical monopoly provider of broadband Internet access could more easily sustain a five-percent price increase; hence, the existence of a separate broadband Internet access market is more plausible. Professor Ordover and Willig criticized one of the present author's previous econometric work on market definition for Internet access for being "poorly specified, inadequately described, and inappropriate to actual market conditions."[26] In this section, we address each of those criticisms in turn.[27]

32. In response to the criticism of inadequate description, we present a detailed account of the benchmark regression results. To conduct the econometric analysis, we gathered price data in August 1999 from 41 states and 59 multiple system operators (MSOs) where Excite@Home and Road Runner were then currently being sold. For cable subscribers the broadband access price varies from $34.95 per month to $64.95 month.[28] We also considered the installation fee, which varies from $50 to $150. We amortized this installation fee over different periods in various regression specifications, depending on the predicted churn rate for broadband

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26. *MediaOne Ordover-Willig Declaration, supra* note 1, at ¶ 95 (criticizing Declaration of Jerry A. Hausman, on behalf of America Online, Inc., Joint Applications of AT&T Corp. and Tele-Communications, Inc. for Control to AT&T of Licenses and Authorizations Held by TCI and Its Affiliates or Subsidiaries, Federal Communications Commission, CS Dkt. No. 98-178 (filed Oct. 29, 1998)).

27. Professors Ordover and Willig emphasize that one of us failed to respond to their econometric critique (presented in the AT&T-TCI proceeding) in the *first* round of this proceeding involving AT&T's proposed acquisition of MediaOne: "Tellingly, while Dr. Hausman has provided a Declaration in this proceeding, he does not respond to any of these criticisms." *Id.* at ¶ 95.

customers. For narrowband Internet access, we collected data from the ILECs providing service in the areas served by the local cable provider.[29] Prices for second telephone lines (used, for instance, by many AOL customers) varied from $7.70 to $47.62 per month.[30] Installation costs for a second telephone line varied from $16.90 to $55.30.[31] Again we amortized the installation cost for the second telephone line. Given that the "standard" price for the @Home cable service is $40 per month and the price for second lines for narrowband access varies widely from $8 to $48 per month, plus the standard fee which is nationwide for narrowband ISPs (for example, $21.95 per month for AOL), the data demonstrate conclusively that the *Merger Guideline* test for market definition places narrowband Internet access in a separate market from broadband Internet access. The straightforward observation is that narrowband access prices differ by a factor of over 300 percent, while broadband access prices do not vary in any way with these differences. Thus, variations in the price of narrowband access cannot explain the variations in the price of broadband access. Otherwise, when the price of a second telephone line changes from $48 to $8 per month, we would expect to observe a decrease in the price for the broadband access service. No significant decrease is found, which demonstrates the existence of separate product markets for antitrust purposes.[32]

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28. Prices for non-cable subscribers are typically $10 per month higher. Consideration of these prices for customers who do not subscribe to cable had no significant effect on the results.

29. These data cover the price of monthly telephone access, not the price to the ISP. Although @Home and Road Runner provide both services in their price, because many narrowband ISPs provide national service at a single price, the price of ISP service will be included in the intercept coefficient in the regression specification.

30. For residential customers who do not use a second (or higher) telephone line, the marginal price of access is zero, everywhere but in New York City, so long as a local network node (PAD) exists. We used different weighted averages for use of first and second telephone lines in some of the regression specifications, but the results were not sensitive to the particular weights used.

31. That installation cost only captures the connection fee and does not reflect the costs of re-wiring the telephone jack.

32. Some narrowband Internet customers do not use a second telephone line. We have also analyzed the data using a weighted average of customers who use a first or second telephone line. The results do not differ significantly, as discussed in the previous footnote.

33.	Table 1 shows the benchmark regression results, which use the price of broadband access (either @Home or Road Runner) as the left-hand side variable. The price variable is specified in logarithms. The right-hand side variables are an intercept, an indicator variable for Road Runner, and a variable for second telephone line prices from the ILEC, either in levels or in logs.[33]

TABLE 1: BENCHMARK REGRESSION OF BROADBAND ACCESS PRICES ON NARROWBAND ACCESS PRICES

Variable	Est. Coefficient	Est. Std. Error	Est. t-statistic
Log Price of Broadband Access[1]			
Intercept	4.03	.090	47.7
Log Price of Narrowband Access[2]	-0.003	.026	-0.102
Road Runner Indicator	-0.116	.013	-8.64
Number of observations	59		
Standard error of regression	.011		
R^2	.572		

Note: (1) Broadband access price is the log of cable broadband access price plus amortized monthly cost of installation. (2) Narrowband access price is the log of the price of a second telephone line plus second-line fees plus amortization of the installation cost.

The estimated coefficient for the price of estimated narrowband access is essentially zero, -.003, which is extremely small (less than 1 percent) and nowhere near statistical significance. The estimated t-statistic is 0.10, well below conventional levels of statistical significance. Thus, the hypothesis that the price of narrowband access does *not* affect the price of broadband access (transport) and ISP service is *not* rejected. Our finding is that lower narrowband access prices do not constrain the prices charged for broadband access. Because the price of AOL is not included in any explanatory variable, its effect is contained in the estimate of the intercept coefficient.

34.	The findings are quite uniform across different specifications corresponding to different definitions and amortization periods for installation costs. The estimated coefficient of

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33. The ILEC's price of second telephone line service is treated as predetermined in the regression specification because it is set by regulation, not by market forces. Also, a Hausman specification test did not reject exogeneity. *See* Jerry A. Hausman, *Specification Tests in Econometrics*, 46 ECONOMETRICA 1251 (1978). Furthermore, regulation requires ILEC tariffs for residential lines to be identical across a given service area.

the narrowband access price variable is found to be very small and statistically insignificant. The

Road Runner indicator variable, however, is about –11.6 percent, and highly statistically

significant with a t-statistic of 8.6. Thus, Road Runner is priced significantly below @Home, on

average. We find similar results if we limit the sample to Excite@Home MSOs, with the

regression coefficient for narrowband access now estimated to be 0.0126, again extremely small

with a very low t-statistic of 0.3857.[34]

35.   Professors Ordover and Willig also argue that the coefficients in the benchmark

regression might be biased due to an omitted variables problem. In particular, they suggest

including the average income of the community as well as some measure of the cost of the calls

from the residence to the ISP.[35] We address those criticisms by including in the regression the

median household income and the average population density for the relevant markets. We also

include age variables for the population. The demographic control variables were not statistically

significant, and the main coefficient of interest—the effect of narrowband access price—did not

change in any meaningful way.[36] Indeed, we do not reject the hypothesis that the coefficient of

the estimated log price of narrowband access is the same, whether or not demographic variables

are included.[37] The results of three additional regressions with different specifications are

presented in the Appendix. Thus, we continue to conclude that the price of narrowband access

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34. To help interpret the coefficient estimate, even if it were statistically different from zero (which it is not by a long shot), note that a 10 percent decrease in the price of narrowband Internet access price would be associated with an expected decrease of 0.12 percent in the Excite@Home price—essentially zero (about 5 cents per month).

35. Declaration of Janusz A. Ordover and Robert D. Willig, on behalf of AT&T Corp., Application for Consent to the Transfer of Licenses of TeleCommunications, Inc., Transferor to AT&T Corp., Transferee, CS Dkt. No. 98-178, at ¶ 16 (filed Nov. 12, 1998) [hereinafter *TCI Ordover-Willig Declaration*].

36. The p-values for an F test are .105 and .235 for the two regression specifications. Both p-values are well above normal significance levels.

37. The p-values for an F test for the use of demographics is 0.63 for the first specification and 0.84 for the second specification. Neither F statistic is anywhere near the 0.05 significance level.

does not constrain the price of broadband access. Broadband Internet access is a separate relevant market for antitrust purposes.

36.   In summary, our econometric analysis rejects the hypothesis that narrowband access prices constrain broadband access prices. For antitrust purposes, therefore, broadband Internet access is not in the same antitrust market as narrowband Internet access based on the relationship of broadband Internet access prices to narrowband Internet access prices. Furthermore, the regression results indicate that Excite@Home is priced on a higher monthly basis than Road Runner by 11.6 percent. Thus, an expected result of the AT&T-MediaOne merger would be an increase in the price of broadband Internet access to MediaOne's customers who currently use Road Runner. That price increase would harm consumers and would be a direct result of the merger.

3.   The Qualitative Results of the Market Definition Tests Will Not Change Over the Relevant Time Horizon

37.   One might argue that the force of our findings is limited because, while the early adopters of broadband Internet access are not likely to switch back after a broadband price increase, the second cohort of broadband Internet users will do so with greater frequency. In fact, there are other forces that will change over time to counteract the "late-adopters" effect. For example, the set of applications used by broadband subscribers will become less usable over narrowband platforms. That effect will reduce the likelihood that a late broadband adopter would switch back to a narrowband connection in the event of a five-percent price increase, even if she were more price-sensitive than earlier broadband adopters.

38.   One might also question whether an increase in the price of narrowband Internet access (that is, a reduction in the price difference between broadband and narrowband Internet access) will undermine our market definition analysis. Again, under this assumption, our

determination of a separate broadband Internet access market will not be affected. If the access prices for narrowband and broadband converge, as AT&T claims they will, then the consumer's decision to switch back to narrowband after a broadband price increase will be less attractive. Stated another way, when the price of narrowband access rises, the value of leisure time saved by using a broadband connection will rise relative the difference in out-of-pocket costs between a narrowband and broadband Internet connection. Hence, even more consumers will remain with their broadband Internet provider in the face of higher broadband access prices. With higher narrowband access prices, the share of marginal broadband customers will fall further below the "critical share" needed to render the broadband access price increase unprofitable.

II. PROFESSORS ORDOVER AND WILLIG ERRONEOUSLY DISMISS THE ANTICOMPETITIVE EFFECTS OF THE AT&T-MEDIAONE MERGER

39. Professors Ordover and Willig assert that, because consumers perceive narrowband access and broadband access to be *close* substitutes, AT&T will not be able to exercise market power in the supply of broadband content and broadband advertising. When (incorrectly) viewed as a small part of one large Internet market, AT&T's market power vanishes. For example, Professors Ordover and Willig testified in the AT&T-TCI merger docket that "because the @Home customer base is still very small and is likely to constitute a small portion of all Internet subscribers, exclusion from such a small customer base—even if it did occur—would not significantly raise its rival's costs, thereby rendering it a less capable competitor or less attractive to consumers."[38] Stated another way, if @Home's customer base were large in *some* relevant market, then exclusion by AT&T would significantly raise AOL's

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38. *TCI Ordover-Willig Declaration, supra* note 35, at ¶ 36.

costs. As we explained previously in this docket, the relevant market is broadband Internet

access services, and @Home and Road Runner already control a very large share.[39]

40.   Professors Ordover and Willig suggest that broadband competition from DSL and

satellite providers over the next several years will constrain a cable provider's ability to exercise

market power in vertically related markets.[40] To support that claim, they cite an article that

projects large DSL penetration in a few years.[41] First, that projection lies far outside the

consensus forecasts of established telecommunications consultancies, including the Strategis

Group,[42] Forrester Research,[43] Foreword Concepts,[44] and the Yankee Group.[45] Second, even

though *residential* DSL penetration will not be anywhere near that of cable modems, by that time

the broadband race may be over. Due to the nature of network industries in general, the early

leader in any broadband Internet access may enjoy a "lock-in" of customers and content

providers.[46] As applied to the present case, a cable provider could wield significant market power

in the broadband Internet access market so long as it can establish an early lead in acquiring

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39. Declaration of Daniel L. Rubinfeld and J. Gregory Sidak on behalf of GTE Corp., Application for Consent to the Transfer of Licenses of MediaOne Group, Inc., Transferor to AT&T Corp., Transferee, CS Dkt. No. 99-251, at ¶¶ 20-25 (filed Aug. 23, 1999) [hereinafter *Rubinfeld-Sidak Declaration*].

40. The FCC also mistakenly places much confidence in narrowing penetration rates between cable modems and DSL by 2007. *See* CABLE BUREAU BROADBAND REPORT, *supra* note 7, at 46. Predictions that far into the future are generally worthless for the purpose of antitrust analysis.

41. *MediaOne Ordover-Willig Declaration*, *supra* note 1, at ¶ 99 (citing Gary Arlen of Arlen Communications).

42. Strategis Reports, High-Speed Internet 1998 – 1999, Dec. 1998, at 229 (projecting a cable market share of 76 percent in 2002).

43. Sam Howe Verhovek, *AT&T Fights for Control in Struggle Over Internet Access*, N.Y. TIMES, Feb. 15, 1999, at *1 (projecting a cable market share of 80 percent in 2002).

44. *Forward Concepts Figures from Mark LaPedus, Non-DSL is Alive and Kicking*, ELECTRONIC BUYERS NEWS, May 18, 1999, at 40 (projecting a cable market share of 83 percent in 2002).

45. Maryanne Murray Buechner, *The Need For Speed*, TIME MAGAZINE, May 17, 1999 at 60 (projecting a cable market share of 61 percent in 2002).

46. As demonstrated by its recent case against Microsoft, network effects appear to be an important antitrust concern for the Department of Justice. Although reasonable minds may differ on the significance of network effects, it is incumbent on policy analysts and economists to consider the issue seriously.

customers. Hence, any promise of DSL or satellite competitiveness in the next millennium may be futile.[47]

41. In disregard of network effects, Professors Ordover and Willig argue that the small sunk costs associated with cable modems will preserve a cable customer's ability to switch providers in the future:

> That is because AT&T's Internet customers are not 'locked-in' when they choose to buy cable-based service from AT&T. They pay monthly charges pursuant to short term contracts . . . . Hence, switching from cable modem service to service via satellite or DSL involves virtually no loss of sunk investment by the customer.[48]

As explained above, consumer lock-in can derive from content and software producers' choices *given the initial choices of broadband customers*. Because they represent such a small portion of the consumer's total switching costs, the out-of-pocket costs of a cable modem are only a very small portion of the overall switching analysis. Professors Ordover and Willig ignore the more serious component of switching costs.[49]

42. Finally, Professor Ordover and Willig claim that AT&T will never be able to exercise market power on broadband *end-users* because AT&T has no means of identifying the minority of potential users of broadband for whom "narrowband services is not an acceptable substitute, and thus has no means of charging higher prices to the minority."[50] AT&T, however, need not be able to identify or target inframarginal customers to be able to exercise market

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47. For an in-depth analysis of lock-in, network, and positive feedback, see HAL R. VARIAN & CARL SHAPIRO, INFORMATION RULES: A STRATEGIC GUIDE TO THE NETWORK ECONOMY (Harvard Bus. School Press 1998).

48. *MediaOne Ordover-Willig Declaration, supra* note 1, at ¶ 109.

49. Professors Ordover and Willig are certainly familiar with that economic concept, as they describe the issue of switching costs when analyzing the Microsoft case: "Moreover, the commitments and switching costs of the end-users, hardware manufacturers, and software writers associated with the installed bases of hardware, software, and use patterns may create substantial barriers to the entry of entrepreneurs seeking to sell alternatives to an established OSS." Janusz A. Ordover & Robert D. Willig, *Access and Bundling in High-Technology Markets*, in COMPETITION, INNOVATION AND THE MICROSOFT MONOPOLY: ANTITRUST IN THE DIGITAL MARKETPLACE 106 (Jeffrey A. Eisenach & Thomas M. Lenard eds., Kluwer 1999).

power.[51] Whether one product is an "acceptable substitute" for another product to a given consumer depends on price as well as product attributes. The underlying data for narrowband access prices and the econometric results demonstrate that, despite wide variation in the price of narrowband access, the price of Excite@Home does not vary with respect to the price of narrowband access. Thus, the narrowband access price does not constrain the price of broadband access. Price discrimination is consequently unnecessary to exercise market power in broadband access because a significant proportion of consumers are willing to pay a "premium price" for broadband access. AT&T and other cable MSOs find it to be profit maximizing to charge approximately $40 per month for broadband access, regardless of the actual price of narrowband access in a particular geographical region.[52]

A.   Contrary to the Claims of Professors Ordover and Willig, AT&T Will Have a Strong Incentive and Opportunity to Discriminate against Unaffiliated Broadband Content Providers

43.   The improper combination of narrowband and broadband Internet markets allows Professors Ordover and Willig to dismiss any suggestion that AT&T could extract greater concessions from broadband content providers. They assert that "no content provider would agree to pay AT&T supra-competitive charges for accessing AT&T customers through the AT&T@Home portal or the MediaOne Road Runner portal when those same customers can easily reach the content provider through the public Internet."[53] That assertion, however, raises a fundamental question about the economics of Internet portals: If there is no premium for AT&T

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50. *MediaOne Ordover-Willig Declaration, supra* note 1, at ¶ 93.

51. See Hausman, Leonard & Vellturo, *supra* note 9, for a discussion of price discrimination with imperfect targeting of consumers.

52. In actuality, Professors Ordover and Willig have their facts wrong because Media One *does* price discriminate for broadband Internet access. Depending on the particular cable tiers chosen, Media One varies the price of its broadband cable access. It is quite unlikely that the $10 per month price difference charged by Media One is related to a similar difference in marginal cost. Thus, the standard economic definition of price discrimination is satisfied.

to earn from delivering customers to content providers on the Internet, then why does the price of narrowband Internet advertising increase with the number of daily hits?[54] AT&T should expect a similar advantage if it can capture a sizable majority of the broadband customers.

1. **AT&T Has an Incentive to Discriminate Against Unaffiliated Broadband Content Providers Because the Gains from Higher Margins on Content Outweigh Any Losses in Internet Access Charges**

44. A simple decision rule for any *profit*-maximizing firm is to engage in a certain activity so long as the benefits from engaging in that activity outweigh any losses incurred while engaging in that activity. Applied to the present case, AT&T will have an incentive to engage in discriminatory acts against unaffiliated broadband content providers so long as the gains from discrimination (associated with a share in the margins from affiliated content providers) outweigh any losses from discrimination (associated with lost margins on customers who switch to other broadband or narrowband alternatives). Stated differently, AT&T will engage in discriminatory acts if the gains on inframarginal customers resulting from higher margins on broadband content (shared with *affiliated* providers) outweigh the losses on marginal customers. Professors Ordover and Willig, however, focus exclusively on only one side of that equation. They ask only whether AT&T has an incentive to drive away some of its customers by limiting their broadband choices through discrimination against unaffiliated broadband content providers:

> Rather, driven by vigorous competition in its post-merger markets, AT&T will have every incentive to offer the most attractive package of services and price that can be devised and practically delivered. Because customers will have competitive alternatives to every AT&T service, AT&T jeopardizes its huge investment in MediaOne unless it finds the right answers for consumers. In this regard, AT&T's incentives are aligned with the public.[55]

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53. *MediaOne Ordover-Willig Declaration, supra* note 1, at ¶ 112.
54. Flynn Remedios, *No counting for folk*, ECON. TIMES OF INDIA, Sept. 6, 1999; Joann Greco, *Intranets: the next and medium?*, NETWORK WORLD, May 25, 1998, at 114; Jonathan Littman, *Yahoo's Brand of Cool*, UPSIDE MAGAZINE, Sept. 1, 1998.
55. *MediaOne Ordover-Willig Declaration, supra* note 1, at ¶ 81.

It is correct that AT&T would not have an incentive to discriminate against unaffiliated broadband content providers if its objective were simply to maximize the *number of subscribers*.[56] AT&T would have such an incentive to discriminate, however, if its objective is, more plausibly, to maximize *profits*.[57]

45.   The lost profits on marginal customers who do not tolerate the limited choices resulting from discrimination against unaffiliated broadband content providers can be represented as $p_a \, q \, n$, where p_a is the price of broadband Internet access, q is the fraction of AT&T's customers who would switch to another form of broadband or narrowband Internet access, and n is the total number of AT&T cable subscribers.[58] The increased margins on inframarginal customers who remain after AT&T has engaged in the discrimination can be represented as $s \, p_c \, (1 - q)$, where s is the share of the content revenues from AT&T's affiliated content providers that AT&T receives, and p_c is the price of broadband content. AT&T's decision rule for whether to discriminate against unaffiliated broadband content providers can be expressed as follows. AT&T will discriminate if and only if

$$s \, p_c \, (1 - q) \, n > p_a \, q \, n,$$

or, after simplifying,

$$p_c \, / \, p_a > q \, / \, (s - s \, q).$$

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56. Professors Ordover and Willig suggest that the "only way to make these huge investments pay off is to gain market share and attract substantial numbers of new customers to its cable-based services such as AT&T@Home." *Id.* at ¶ 113. They again mischaracterize AT&T's objective function as "maximize the number of innovative applications developed by content providers." *Id.* at ¶ 132.

57. The FCC also mistakenly confuses losing subscribers with profit maximization: "If a cable operator opts for a closed, proprietary system in which consumers have no choice of ISPs or have to purchase unwanted services as a condition of subscribership, these companies will risk losing *subscribers* in favor of more open systems." *See* CABLE BUREAU BROADBAND REPORT, *supra* note 7, at 42 (emphasis added). Cable providers today lose subscribers to direct broadcast satellite providers because the cable providers charge supracompetitive prices. Nevertheless, a cable provider can increase *profits* by doing so.

58. For simplicity, we assume that the marginal cost to serve an additional customer is zero. Hence, AT&T's profit margin per customer can be represented by the price alone.

Assuming that the price of broadband cable access (p_a) is $40 per month and the share of broadband content revenues (s) that AT&T keeps from its affiliated content providers is 10 percent,[59] the decision rule can be expressed as a function of the price of broadband content and the fraction of subscribers that leave AT&T due to its more limited range of content. Figure 1 shows the different combinations of the price of content (p_c) and the fraction of marginal customers (q) that would produce an incentive for AT&T to engage in discriminatory behavior against unaffiliated broadband content providers.

FIGURE 1: COMBINATIONS OF PRICE OF CONTENT AND FRACTION OF MARGINAL CUSTOMERS THAT WOULD PRODUCE AN INCENTIVE FOR AT&T TO ENGAGE IN DISCRIMINATORY BEHAVIOR AGAINST UNAFFILIATED BROADBAND CONTENT PROVIDERS

Fraction of Marginal Customers (%)
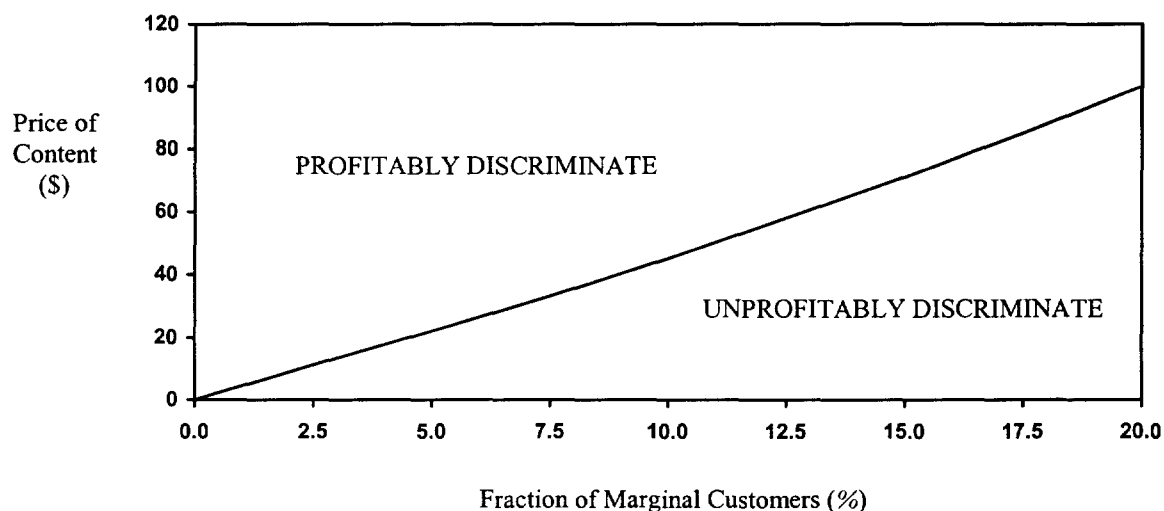
As Figure 1 shows, so long as the fraction of marginal customers (q) is small, it typically pays for AT&T to discriminate against unaffiliated broadband content providers. For example, if the fraction of marginal customers is 5.0 percent, then affiliated content providers of AT&T must charge at least $22 per month to induce AT&T to discriminate. If the fraction of marginal

59. The $40 per month fee is the basic monthly fee charged by @Home.

customers is 12.5 percent, then affiliated content providers of AT&T must charge at least $58 per month to induce AT&T to discriminate.

46.   As we explained earlier, the fraction of marginal broadband customers should be very small because narrowband Internet access does not support a significant number of broadband applications. In fact, as more broadband-specific applications emerge in the future, we expect the fraction of marginal broadband customers to decrease. Additionally, the broadband content prices that must be achieved to render the act of discrimination profitable are extremely conservative.

2.   AT&T Has the Ability to Discriminate Against Unaffiliated Content Providers in Several Ways

47.   As we described in our earlier declarations, there are several ways in which AT&T can discriminate against unaffiliated content providers. First, AT&T can give preference to an affiliated content provider by caching its content locally. As the Director of GTE's Business Development for Broadband Data Services explains:

> Within the ISP's point of presence linked to the regional router, the affiliated ISP is able to cache preferred content for the fastest possible delivery to customers (though this may be done elsewhere in the ISP's very-high-speed national backbone). In closed systems, cable modem customers do not need to access the public Internet to reach content supplied directly by their cable provider's affiliated ISP.[60]

Such preferential treatment ensures that affiliated content can be delivered at faster speeds than unaffiliated content.

48.   Second, AT&T can limit the duration of streaming videos of broadcast quality to such an extent that they can never compete against cable programming. Stated more generally, AT&T can block any competing content that it wants to. Professors Ordover and Willig,

however, turn that anticompetitive practice upside down: "We also understand that there are *pro-competitive* explanations for limits on cable-delivered Internet video streaming including the need, inherent in the shared nature of the cable plant, to ensure that a few bandwidth 'hogs' do not slow down and degrade the experience of all users."[61] Under traditional antitrust principles, AT&T's limitation on the duration of streaming video exhibits the "hallmarks of anticompetitive behavior [that] place upon [it] a heavy burden of establishing an affirmative defense which competitively justifies this apparent deviation from the operations of a free market."[62] Whether AT&T can satisfy that heavy burden depends on whether its time limit for streaming video is indeed necessary to make its cable network operate efficiently, and on whether that objective could be accomplished by less restrictive means.[63] As one court put it, "a factor in determining the reasonableness of an ancillary restraint is the 'possibility of less restrictive alternatives' which could serve the same purpose."[64] Clearly, a less restrictive allocation mechanism (such as prices or overall caps on per customer usage) could be designed to ration efficiently the capacity of AT&T's cable network to deliver streaming video.

49.   Third, AT&T could impose proprietary standards that would render unaffiliated content useless. To dismiss that claim, Professors Ordover and Willig incorrectly argue that *all* broadband content can be supported by narrowband applications:

> Indeed, even if AT&T has 100 percent of the broadband customers, that would give it *no* ability to impose proprietary standards or tie up content providers with exclusive contracts. AT&T would still "control" only a tiny fraction of the

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60. *See* Declaration of Albert Parisian on behalf of GTE Corp., at ¶ 8, Applications for Consent to the Transfer of Control of Licenses MediaOne Group, Inc., CS Dkt. No. 99-251 (filed Aug. 23, 1999).

61. *MediaOne Ordover-Willig Declaration, supra* note 1, at ¶ 117 (emphasis added).

62. *National Collegiate Athletic Ass'n v. Board of Regents of the Univ. of Okla.*, 468 U.S. 85, 113 (1986) [hereinafter *NCAA*]; *National Soc'y of Prof. Engineers v. United States*, 435 U.S. 679, 692-96 (1978).

63. *NCAA*, 468 U.S. at 102-04, 117-20.

64. *Los Angeles Mem. Coliseum Comm'n v. National Football League*, 726 F.2d 1381, 1396 (9th Cir.), *cert. denied*, 469 U.S. 990 (1984); *North Am. Soccer League v. National Football League*, 670 F.2d 1249, 1261 (2d Cir.), *cert. denied*, 459 U.S. 1074 (1982).

> consumers of content sites . . . . And, establishing proprietary standards that limit
> the content available to its customers is likely the surest way to discourage
> customers from making the switch [to AT&T's broadband network].[65]

But focusing on the decision to switch *to* AT&T's network, Professors Ordover and Willig fail to

address whether AT&T's proprietary standards will prevent broadband customers from

switching *from* AT&T's cable network. For the purpose of antitrust analysis, the question that

Professor Ordover and Willig ignore is the relevant one.

50. The academic literature on standards and network externalities provides

theoretical and empirical support for the conjecture that AT&T could impose proprietary

standards that would raise the switching costs for its subscribers and stifle competition in

vertically related software markets. Applied to the present case, the positive network externality

is the increasing value of AT&T's broadband network as more of its network is utilized.[66]

Because AT&T is the first to the broadband residential marketplace and because the marginal

cost of writing software for a second standard is substantial, software designers will likely write

applications that are exclusively compatible with AT&T's standard, thereby increasing the value

of AT&T's broadband network relative to other broadband networks. Those positive externalities

are self-reinforcing in the sense that consumers will recognize AT&T's advantage and subscribe

to AT&T's broadband network in greater numbers. Empirical studies suggest that there are

positive demand-side feedback effects between hardware and software when they operate on

exclusive standards.[67] Gandal, Kende and Rafael find that the availability of compatible software

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65. *MediaOne Ordover-Willig Declaration, supra* note 1, at ¶ 129 (emphasis in original).

66 Michael L. Katz & Carl Shapiro, *Network Externalities, Competition and Compatibility*, 75 AM. ECON. REV. 424 (1985); Michael L. Katz & Carl Shapiro, *Systems Competition and Network Effects*, J. ECON. PERSPECTIVES, Spring 1994, at 93.

67. Neil Gandal, *Competing Compatibility Standards and Network Externalities in the PC Software Market*, in 77 REV. ECON. & STAT. 4, 599 (November 1995); Michael Kende, *Licensing and the Battle Between Standards*, INSEAD, Working Papers: 95/47/EPS (May 1995); Thomas Cottrell, *Standards and the Arrested Development of Japan's Microcomputer Software Industry*, in THE INTERNATIONAL COMPUTER SOFTWARE INDUSTRY: A

has a significant and positive effect on the adoption of compact disc players, in part because compact disc players were not compatible with existing audio standards.[68] Software network externalities also exist in the database management system and spreadsheet markets, and the personal computer software market in general.[69] Once the AT&T standard has been established, AT&T will be able to exercise market power over customers and those companies trying to reach its customers.[70]

3. The Decreased Variety in Content Will Cause Substantial Consumer Welfare Losses

51. We have demonstrated that AT&T will have strong incentives to discriminate against unaffiliated content providers *despite* the fact that consumers value diversity in broadband content. Because most broadband content will compete with cable programming, it is possible to infer the extent to which consumers value variety in broadband content (and hence the extent of their welfare loss when denied such variety) based on consumers' value of diversity in cable programming content. Fortunately, economists have already empirically estimated the value that cable-programming consumers place on variety in content. In 1996, Robert Crandall of the Brookings Institution and (now Commissioner) Harold Furchtgott-Roth estimated a multinomial-logit model of the demand for cable services and used the results to estimate the

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COMPARATIVE STUDY OF INDUSTRY EVOLUTION AND STRUCTURE 131-164 (David C. Mowery ed. Oxford University Press 1996).

68. Neil Gandal, Michael Kende & Rob Rafael, *The Dynamics of Technological Adoption in Hardware/Software Systems: The Case of Compact Disc Players*, TEL AVIV SACKLER INSTITUTE OF ECONOMIC STUDIES WORKING PAPER 21/97 (July 1997).

69. M. Shurmer & P. Swann, *An Analysis of the Process Generating De Facto Standards in the PC Spreadsheet Software Market*, 5 J. EVOLUTIONARY ECON. 2, 119 (June 1995).

70. Joseph Farrell & Garth Saloner, *Installed Base and Compatibility: Innovation, Product Preannouncements and Predation*, 76 Am. Econ. Rev. 940 (1986); Stanley M. Besen, *The Standards Processes in Telecommunication and Information Technology*, in STANDARDS, INNOVATION AND COMPETITIVENESS: THE POLITICS AND ECONOMICS OF STANDARDS IN NATURAL AND TECHNICAL ENVIRONMENTS 136-146 (Richard Hawkins, Robin Mansell and Jim Skea eds. Elgar Publishers 1995); Thomas Cottrell, *Standards and the Arrested Development of Japan's Microcomputer Software Industry*, in THE INTERNATIONAL COMPUTER SOFTWARE INDUSTRY: A COMPARATIVE STUDY OF INDUSTRY EVOLUTION AND STRUCTURE 131-164 (David C. Mowery ed. Oxford University Press 1996).

effects on consumer welfare of changes in service characteristics.[71] They found that consumers would be willing to pay an additional $1.03 per month for carriage of an additional basic satellite channel.[72] Using their estimates of willingness to pay for diversity in content, Crandall and Furchtgott-Roth calculated that "approximately 100 million U.S. households in 1992 would have been willing to pay $6.5 billion to obtain the 1992 service-rate combination [with greater programming choices] rather than the 1982-83 combination [with fewer programming choices]."[73] Applied to the present case, it would appear that consumers would suffer tremendous welfare losses if they were denied programming choices over the Internet.

52.   AT&T's (and previously TCI's) traditional cable strategy has been to use its market power in the delivery of programming to expand its control over the programming itself. The implementation of that strategy through the AT&T-MediaOne merger will thus harm consumers by limiting their choices in broadband content. Because Professors Willig and Ordover narrowly focus on the *direct* harm to consumers from the merger, they foresee no anticompetitive effects: "If the proponents of forced access are right in predicting that future consumers will so prefer cable-delivered online services that alternatives will wither on the vine, then AT&T and MediaOne, each acting alone, would enjoy the same 'power' over the customers in their respective service areas as the proponents of forced access posit for the combined entity."[74] Professors Ordover and Willig overlook the indirect consumer harm that will result from less broadband content (after AT&T discriminates against unaffiliated broadband content providers).

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71. ROBERT W. CRANDALL & HAROLD FURCHTGOTT-ROTH, CABLE TV: REGULATION OR COMPETITION? 50-55 (Brookings Institution 1996).
72. Likewise, the authors found that consumers would be willing to pay an additional $1.35 per month for carriage of an additional basic broadcast channel. *Id.* at 56.
73. *Id.* at 58.

B.   Contrary to the Claims of Professors Ordover and Willig, AT&T Will Have a Strong Incentive and Opportunity to Raise Advertising Prices on Its Broadband Home Page

53.   With respect to the market for broadband Internet advertising, Professors Ordover and Willig again exaggerate the scope of the relevant product market such that they can argue that AT&T lacks the incentive and ability to exercise market power. According to Professors Ordover and Willig, consumers are equally likely to purchase any product across all advertising mediums, including television, narrowband Internet, broadband Internet, and radio:

> Advertisers have many venues through which to reach consumers, of which the Internet is only one. Even if TCI were to foreclose OSPs [other service providers] from broadband transport in its cable markets, this would have zero impact on @Home's ability to charge supracompetitive rates for advertising on @Home's web page and content screens.[75]

That conjecture is misguided for at least five reasons. First, because the broadband experience will be so vastly different from the narrowband experience, a broadband user's propensity to "test drive" new features should be greater than that of a narrowband user. Second, as discussed in the previous Rubinfeld-Sidak affidavit, the demographic profiles (an essential driver of marketing dollars) of broadband and narrowband Internet users are significantly different.[76] Third, the Ordover-Willig conjecture ignores that certain products are more suitable for purchase over high-speed interactive broadband connections than over other mediums. Fourth, it is inconsistent with the previous conclusion by the Department of Justice that there exist many distinct advertising markets.[77] Fifth, if there were one single advertising market across all mediums of communication, as Professors Ordover and Willig claim, then there would be no

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74. *MediaOne Ordover-Willig Declaration, supra* note 1, at ¶ 68.

75. *TCI Ordover-Willig Declaration, supra* note 35, at ¶ 37.

76. *Rubinfeld-Sidak Declaration, supra* note 39, at ¶ 22 (citing STRATEGIS GROUP SURVEY, *supra* note 22).

77. *See* United States *v.* Chancellor Media Co. and SFX Broadcasting, Inc., Proposed Final Judgment and Competitive Impact Statement, 63 FED. REG. 17,446, 17,451 (1998). United States *v.* Citadel Communications Corp., Triathlon Broadcasting Co., and Capstar Broadcasting Corp., 64 FED. REG. 26,776, 26,780 (1999).

anticompetitive harms from allowing all Internet portals to be provided by a single firm. It is doubtful, however, that the Department of Justice or the FCC would approve a combination of all Internet portals under the rationale that advertisers could reach the same target audience as effectively through a different medium.

1. AT&T Has an Incentive and Ability to Raise Advertising Prices on Its Broadband Home Page

54. Once it captured a sufficiently large share of broadband content and customers, AT&T could extract larger economic rents from companies wishing to advertise on the Excite@Home portal. Already, advertisers shopping for space on @Home's website are informed that "cable modems will be the *dominant* consumer access technology because of better price performance, content relationships, and aggressive rollout schedules."[78] The opportunity to advertise on narrowband portals would not constrain AT&T's ability to raise advertising prices on broadband portals, because advertisers do not view narrowband advertisements as a close substitute for broadband advertisements. In the future, broadband and narrowband services are likely to be as dissimilar as radio and television are today. For example, advertising over broadband connections "allow[s] for so-called rich media ads capable of various interactive features and, coupled with specific targeted demographics, allow[s] high-speed service providers to charge higher rates."[79] One study finds that the quality levels made possible by broadband advertising generate eighteen times the recall rate of dial-up advertising.[80]

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78. Information downloaded from @Home's website (http://www.home.com/advertising/whybroadband.html) (emphasis added) on Oct. 25, 1999.

79. Corey Grice, *Road Runner Beefs Up Advertising Push*, CNET NEWS.COM, Aug. 4, 1999.

80. Fred Dawson, *Excite@Home Gets Rolling On Broadband-Enhanced Ads*, MULTICHANNEL NEWS ONLINE, June 14, 1999 ("Researchers are finding that advertising offered at quality levels made possible by access speeds four times or better above dial-up generate 18 times the recall levels of GIF [graphic interface format] banners," according to Macromedia Inc. spokeswoman Andrea Coffey). A study by @Home/Intel also found that broadband rich media advertising increases recall. *See* Excite@Home, *Broadband Advertising Communications Effectiveness: Rich Media II Study*, available at http://www.home.com/advertising/packages/irmlearn/richmedia1.pdf.

Moreover, as we explained earlier in this affidavit, the profile of the typical broadband customer is sufficiently different from that of a narrowband user. Hence, products that match broadband user preferences may not sell as effectively over traditional narrowband portals.

55.   There is evidence that AT&T is currently exercising market power in the broadband advertising market. According to an industry report, Excite@Home already charges "significantly more for ads than its competitors."[81] Those higher rates will likely be passed onto broadband customers in the form of higher e-commerce prices.

2.   The Consumer Welfare Loss Resulting from Higher E-commerce Prices Would Be Substantial

56.   Business activity conducted over the Internet is projected to generate $29 billion in transactions by 2002.[82] The Internet has the potential to become the most important intermediation vehicle in the U.S. economy. Professor Daniel F. Spulber of the Kellogg School of Management at Northwestern University has investigated the crucial role of intermediation in the U.S. economy and estimated that intermediation services represent 25 percent of the value added to U.S. gross domestic product, or $1.9 trillion per year.[83] The Internet is particularly well-suited to provide traditional intermediation services, including price setting and market clearing, providing liquidity and immediacy, matching and searching, and guaranteeing and monitoring.[84] According to William Myers, chief executive of the United States Internet Council, the combination of AT&T and MediaOne would be "a crippling blow to the growth of online

81. Grice, *supra* note 74, at *1.
82. John Borland, *Living Up to the Broadband Hype*, CNET NEWS, July 28, 1999 (downloaded from http://news.cnet.com/news/0-1004-201-343780-0.html?tag=st.cn.1fd2. on Aug. 1, 1999).
83. DANIEL F. SPULBER, MARKET MICROSTRUCTURE: INTERMEDIARIES AND THE THEORY OF THE FIRM 23 (Cambridge University Press 1999).
84. Daniel F. Spulber, *Market Microstructure and Intermediation*, 10 J. ECON. PERSP. 135 (1996); Daniel F. Spulber, *Clock Wise: Customer Convenience Is the Key to E-commerce*, BUSINESS 2.0, Feb. 1999, at 82; Daniel F. Spulber, *Market Makers: Win markets by connecting customers and suppliers*, EXECUTIVE EXCELLENCE, Mar. 1999,

commerce."[85] By channeling all broadband customers and content through its own portal, AT&T will be able to raise prices charged to broadband advertisers. It is helpful to view the advertising price increase by AT&T as a tax on sellers of e-commerce, at least some portion of which will be passed onto consumers of e-commerce.

57.   To determine the magnitude of the consumer welfare loss from a price increase of e-commerce goods, one needs an estimate of the demand elasticity for e-commerce. Professor Austan Goolsbee of the University of Chicago has used new data on the purchase decisions of approximately 25,000 online users to examine the effects that local sales taxes have on Internet commerce.[86] He finds that a 5 percent increase in Internet taxes would decrease the number of e-commerce customers by roughly 18 percent (equal to the product of a -3.6 elasticity and a 5 percent tax).[87]

58.   The high demand elasticity for e-commerce suggests that consumers would bear a substantial portion of the rate increase imposed by AT&T. For illustrative purposes, we assume that 50 percent of a 10 percent advertising rate increase is passed onto consumers of e-commerce who use the AT&T network.[88] To determine the associated welfare loss, one also needs estimates of the number of customers subscribing to cable broadband service and the average amount of annual e-commerce spending per cable broadband customer. We also assume that, by the end of 2002, AT&T's broadband customer base grows to 3.08 million, 100 percent of its broadband

at 12. *See generally* DANIEL F. SPULBER, THE MARKET MAKERS: HOW LEADING COMPANIES CREATE AND WIN MARKETS (BusinessWeek Books 1998).

85. Clint Sweet, *Fortunes Are at Stake as Cable, Internet Access Merge*, SACRAMENTO BEE, June 24, 1999, at *1.

86. Austan Goolsbee, *In a World Without Borders: The Impact of Taxes on Internet Commerce*, Conference Paper at American Enterprise Institute, Mar. 19, 1999.

87. *Id.* at 16.

88. The rate increase was chosen to accord with the markup that Excite@Home recently began charging for advertising. *See* Grice, *supra* note 74, at *1.

customers purchase goods on-line, and the average annual e-commerce expenditure per customer is $1,000.[89]

59.   As discussed above, the welfare loss resulting from AT&T raising broadband advertising rates can be performed in two steps. First, for customers who continue to purchase online after the price increase, the welfare loss is the product of the difference in e-commerce prices ($50 per year = 0.05 x $1,000 per year) and the number of remaining cable broadband e-commerce customers (2,525,600 = 3,080,000 – 554,400).[90] Second, the price increase will drive away some broadband customers who would have purchased online in the alternative. That loss in welfare is computed as the area beneath the demand curve bounded by the old and new prices, and is equal to one-half the product of the number of lost customers (again 554,400) and the price increase (again $50). By the end of 2002, the combined effect of the two sources is a yearly loss in welfare of $140.14 million (equal to $126.28 million plus $13.86 million). That estimate is large relative to the size of e-commerce *in its nascent stage.* We expect the associated welfare loss to grow in proportion to the size of the exploding e-commerce activity.

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89. Average annual e-commerce expenditure per customer for *all* Internet customers (including broadband and narrowband customers) in 2000 is estimated to be $617. Jupiter Communications, *Consumer Internet Economy - Online Market Size*, MarkIntel Research Report, July 1, 1998, at 8. Because of differences in user profiles and applications, we expect e-commerce expenditure per *broadband* customer to be significantly greater than the equivalent expenditures per *narrowband* customer. AT&T's broadband customer base estimate from Lehman Brothers, Inc., *Technology Choices for Broadband: Cable and ADSL Should Dominate*, Investext Report, June 2, 1999, at 4.

90. After linearizing the elasticity of demand estimate, the number of departing customers can be computed as $50 x -3.6 x 3,080,000/ $1,000, or 554,400.

C.   **Professors Ordover and Willig Fail to Respond to the Anticompetitive Incentives that AT&T Has Because Broadband Internet Will Cannibalize AT&T's Cable and Long-Distance Margins**

    1.   **Broadband Streaming Video Will Erode AT&T's Cable Margins**

60.   For some customers of broadband content, streaming video and cable television may be substitutes.[91] According to Microsoft's chief technology officer, with high bandwidth and fast chips, "PC video will also be higher quality than anything on TV."[92] When streaming video and cable television begin to compete for the same customers, AT&T will likely view its streaming video services as cannibalizing its cable video offerings. To avoid losing cable customers and their associated large margins, AT&T has an incentive to impede innovations in streaming video.

61.   There is already some evidence that AT&T recognizes the threat of cannibalization. For example, AT&T's contract with @Home stipulates that @Home is required to restrict individual streaming sessions of "broadcast-quality video" to ten minutes.[93] Indeed, AT&T could find it advantageous to exert its market power in the streaming video market through incompatible designs and exclusive contracts. Professors Ordover and Willig are remarkably silent on the cannibalization issue. The FCC has the opportunity to allow competition for one of the most durable *unregulated* monopolies in the U.S. economy—namely, cable television. But the Commission will forfeit that opportunity if it allows AT&T to impose limits on streaming video that restrain competition.

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91. *See, e.g.,* Neil Gross & Steven V. Brull, *The Net's Next Battle Royal—Video: The technology isn't there, but the competition is,* BUS. WK., June 28, 1999, at 108.

92. *Id.* (quoting Nathan P. Myhrvold).

93. *See* Fred Dawson, *RealNetworks, @Home Team Up on Streaming,* MULTICHANNEL NEWS ONLINE, Jan. 18, 1999, at *1.

2. Internet Protocol Telephony Will Erode AT&T's Long-Distance Margins

62.   Cable companies currently are supplying *local* telephone services with equipment that provides traditional circuit-switched telephony over hybrid fiber/coax (HFC) networks.[94] To provide *long-distance* connections, cable firms such as MediaOne and Cox have established interconnection agreements with long-distance providers and afforded customers complete choice in long-distance carrier.[95] In sharp contrast, the agreement between Time Warner and AT&T effectively ties AT&T long-distance service to local cable telephony.[96] Stated differently, a customer of TCI cable telephony has no choice in its long-distance provider. Because AT&T's total revenues are so heavily dependent on long-distance services,[97] it has a strong incentive to tie long-distance service to local cable telephony. AT&T's chief financial officer recently emphasized that AT&T has "a unique collection of assets—most notably its 70 million-strong long-distance customer base—and that serving them is a higher priority than pleasing the cable industry."[98] He explained that AT&T will protect those margins vigorously:

> It is not fair to assume that AT&T will do anything other than work to protect that long-distance customer base. And we should not be chastised [for doing so]. AT&T has to protect its interests and its shareholders, as every other company does. I don't think that conflicts with where the industry will ultimately end up.[99]

Such a tying strategy of long-distance service to cable telephony would allow AT&T to more perfectly price discriminate against customers by manipulating the price of the *package* of long-

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94. Sam Masud, *Cable telephony say hello, to your new phone company*, TELECOMMUNICATIONS, Dec. 1, 1999, at 30.

95. *Id.*

96. Eve Tahmincioglu, *MediaOne Offers Telephone Service via Cable TV in Jacksonville, Fla.*, ST. PETERSBURG TIMES, Apr. 13, 1999, at *1.

97. Leslie P. Norton, *Goosing Ma Bell: Is AT&T an Internet darling or a long-distance stock in drag?*, BARRON'S, Aug. 9, 1999, at 29 (estimating that long-distance revenues represent 60 percent of total revenues); AT&T Corp. Midyear Report, *Straight Talk With Mike Armstrong* at 1 (1999) (available at http://www.att.com/ir/sec/#myr).

98. Leslie Cauley, *AT&T's Plans For Cable Deals Suffer Setbacks*, WALL ST. J., Oct. 25, 1999, at B1 (quoting Dan Somers).

99. *Id.*

distance and local cable telephony to target high-volume users. At least one industry analyst recognizes AT&T's power in the nascent cable telephony industry: "Back office and provisioning are major issues, and if AT&T can do it with its new partners, they could be to cable telephony what @Home is to cable Internet."[100]

63. Moreover, AT&T has a weaker *incentive*, relative to that of a pure cable operator, to embrace Internet protocol (IP) telephony, a lower-cost cable telephony solution than circuit-switched methods.[101] IP telephony was first implemented in 1995 and, at 80 to 90 million minutes per month globally, accounted for less than one percent of all international calling traffic as of March 1999.[102] IP telephony is potentially superior to circuit-switched technology in the areas of advanced calling features, such as one-number portability and video conferencing.[103] Even under the assumption that AT&T cannot interfere with the choice of IP long-distance provider, AT&T has a strong incentive to slow the migration of long-distance minutes from its current network to the Internet. Customers who purchase the necessary software and hardware equipment to run IP telephony from their computers will have a newfound opportunity to choose an alternative (Internet-based) long-distance provider. By contrast, customers who continue to use circuit-switched long-distance services (over cable systems) have no alternatives to AT&T.

64. If the demand for IP telephony becomes unmanageable, however, AT&T has the *ability* to limit its customers' choice of an alternative IP telephony provider. AT&T, through TCI, partially owns CableLabs, the consortium in charge of developing the network specifications for cable-based IP telephony and the hardware that will reside at the customers'

100. Sarah Schmelling, *Ghostbusting*, TELEPHONY, Apr. 12, 1999, at *1 (quoting Michael Harris, president of Kinetic Strategies Inc).
101. Masud, *supra* note 89, at 30.
102. Daniel Sweeney, *IP Voice Telephony*, AMERICA'S NETWORK, Mar. 1, 1999, at S6 (quoting Mary Evslin, vice president of marketing for ITXC).

premises.[104] CableLabs is developing a specialized form of IP telephony tailored for cable systems that would enable telephone customers to bypass ILEC *and even IXC telephone networks*, entirely.[105] In similar fashion to its control over broadband interfaces for streaming video applications, AT&T could design proprietary IP telephony interfaces that would raise the costs of competitive providers. Under the terms of its pending joint venture agreement with Time Warner, AT&T will select the equipment to be installed in Time Warner's cable network to deliver telephony services.[106] For example, AT&T could cause delays for customers using alternative IP telephony providers by implementing suboptimal routing strategies, whereby routers send packets on circuitous routes to their final destinations. Moreover, by controlling the broadband connection, AT&T will effectively control the primary means of access to IP telephony. Hence, AT&T would have an ability to inflate the price of the service, which would slow IP telephony adoption.

65.   Contrary to the above conjectures, AT&T has made several promises to move to IP telephony over cable as soon as possible. According to the division manager in AT&T's corporate business development unit, it is AT&T's "intent to have full IP end-to-end in a *managed* scenario for telephony and also to provide Internet access using IP so that you have minimum translation, maximum throughput, and maximum diversity of applications, all through IP."[107] That promise, however, is not likely to be met for at least three reasons. First, analysts are dubious as to why AT&T would use one technology (circuit-switched) in its trials and another for its commercial rollout (packet-switched): "They say they'll do this in the future, but

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103. *Id.*
104. Masud, *supra* note 89, at 30.
105. *Packet Service over Cable: A Regulatory No-Man's Land*, INTELLIGENT NETWORK NEWS, May 12, 1999, at *1.

everybody knows the future will never come."[108] Second, AT&T's choice of IP telephony architecture, known as distributed open signaling architecture (DOSA), is incompatible with the multimedia gateway control protocol (MGCP), an approach that is likely to be ready for deployment in the near future.[109] Hence, AT&T's actions do not support its promises.

66.   Finally, conditional on regulatory approval of the proposed merger between MCIWorldCom and Sprint, long-distance prices and hence margins are likely to rise, as that merger represents an *actual* loss of competition in every long-distance market.[110] Thus, the payoff to AT&T from any strategy that limits the development of IP telephony or restricts a customer's ability to select an IP telephony provider will increase as well. That linkage between the two proposed mergers—involving the three major U.S. long-distance providers—should raise additional concerns for the Commission and the Department of Justice.

III. PROFESSORS ORDOVER AND WILLIG EXAGGERATE THE PROCOMPETITIVE BENEFITS OF THE MERGER

A.   AT&T's Decision to Acquire MediaOne Does Not Exclusively Support a Procompetitive Hypothesis

67.   Professors Ordover and Willig ask the Commission to "credit the judgments of the management of AT&T and MediaOne" when determining whether to approve the merger.[111] By "crediting" the judgments of AT&T and MediaOne, the Commission evidently would grant a

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106. Kathleen Cholewka, *AT&T's Cable Telephony Plans Raise Eyebrows*, INTERACTIVE WEEK FROM ZDWIRE, Mar. 8, 1999, at *1.

107. Masud, *supra* note 89, at 30 (quoting Mark Dzuban).

108. Cholewka, *supra* note 101, at *1 (quoting Tom Nolle, president of the CIMI consultancy).

109. Fred Dawson, *Cable Reaches For A Voice Service Lifeline*, INTERACTIVE WEEK FROM ZDWIRE, May 31, 1999, at *1.

110. For example, the Herfindahl index for *business* long-distance service will rise from 2,464 to 3,080, which represents a change of 660. The Herfindahl index for *wholesale* long-distance service will rise from 2,023 to 3,028, which represents a change of 1,005. See DATAQUEST, PUBLIC TELECOMMUNICATIONS SERVICES NORTH AMERICA MARKET SHARE AND FORECAST, 1999.

111. *MediaOne Ordover-Willig Declaration*, *supra* note 1, at ¶ 16.